

ELCLOG

21st
Century
Technology



VOLUME ONE • ISSUE FOUR

SPRING 2000

Track Your ShipAlt/BoatAlt Online!

By LTJG John Berry

Have you ever come up with an idea that would save the Coast Guard time and money or just make life at sea a little bit easier? Hopefully you sent your idea to the MLC in the form of a ShipAlt or Boat Alt request where it would be reviewed and forwarded to Headquarters and the ELC. In the past, the status of requests were not visible by ELC customers until they became a ShipAlt or BoatAlt. With recent advances in database technology, ELC has designed and implemented the Database Alteration Request Tracking System (DARTS) to provide customers with the current status of ShipAlt/BoatAlt requests and Naval Engineering Projects related to their vessel class. The incorporation of this technology into ELC's business practices has made the alteration process more efficient and helped provide a better level of service to ELC customers.

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New Technology Promotes Accurate Fog Detection



CEVV-VM100 A Sentinel For Our Time

By William Walstrum

From the ancient mariners of the past, to the technologically sophisticated shipboard captains of today, seafarers have always had a critical need for accurate, real time knowledge of prevailing weather conditions. Failure on their part to observe and react to these conditions could easily result in a maritime disaster. Lest we not forget the haunting lyrics of the 1975 Gordon Lightfoot song entitled "The Wreck of the Edmund Fitzgerald". One perennial and notorious hazard to mariners, one that limits human visibility, is the coastal weather phenomenon known as 'fog'.

How we deal with fog is far less scientific then how we remotely detect it and herald its presence. Always with the motive of ensuring safety of life at sea, the Coast Guard's preoccupation with local weather conditions has been more than just a curious fascination. Whether battling high winds and extreme temperatures, or navigating in extremely low visibility through a harbor channel or narrow passage, the Coast Guard must rely on every navigational and meteorological tool at its disposal to safely complete the mission at hand. One such state-of-the-art tool is an automatic fog detection sensor, known as the CEVV-VM100.

Managed by the ELC's Equipment Management Division, this microprocessor controlled meteorological instrument, developed by Fidelity Technologies Incorporated of Reading, PA, currently offers automated visibility moni-

toring and appropriate control outputs to the outside world. When visibility diminishes below a preset threshold, a co-located sound signal (foghorn) will be activated. Commonly referred to as the VM100 Fog Detector, this sensor offers tremendous potential for the localized collection, recordation and transmission of other meteorological information. As the network of VM100 sensors expands and its capabilities increase, this unmanned integrated meteorological 'station' will be capable of not only providing visibility measurements, but also air temperature, wind direction and velocity, and barometric pressure on command. While fog detection is difficult and marked by variability in density, location, development and dissipation rates, this sensor offers great hope for the Coast Guard's ability to operate, in an admittedly limited arena, with real time weather information.

The ELC's Electronic Systems Laboratory currently maintains a population of approximately 130 sensors, with many more yet to be deployed. The sensor, from a system viewpoint, consists of an electronic assembly (XB 6350-01-GL3-5945), a hood, and a mounting pedestal (5985-01-GL7-5538). The electronic assembly, which has no user serviceable parts and is therefore a mandatory turn-in item, typically contains transmitter, receiver, microprocessor and power supply circuitry. Simply stated, it functions by repeatedly transmitting a packet of light (strobe) out in front of the sensor and then detects the amount of light reflected back (back-scattered light) from the

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Captain's Message To The Field

Greetings from the Engineerroom;

"I am repeating my message from the last issue regarding CASREP support. CASREP response is one of the most important services we provide to the fleet and we, as you, take it very seriously. We continue to encounter disgruntled customers who think their CASREP ordered the part because we were an info addressee on that message."

Your shipmates here at the ELC strive to have 100% of CASREP requisitions out the door to you within 24 hours of receipt of the order. However, in order for us to meet that goal and fill your need, we need the MILSTRIP information just as quickly as the CASREP information. ***The CASREP by itself does not provide the information we have to have to process your requisition.*** Our new SCCR computer fully automates this process from requisition to material release order at the warehouse in a matter of seconds. I bring up this reminder because a cutter recently submitted a CASREP and was upset when no parts were immediately forthcoming. They were under the impression that a CASREP was all that was needed. Once it was brought to the attention of the ELC Requisition Management Branch, they worked with the cutter by faxing them a sample of a narrative MILSTRIP message and instructing the storekeepers onboard the proper way to submit requisitions for parts that are needed for a CASREP. Supporting your operations is a logistics partnership between you and the ELC. Please help us to help you.

On several occasions over the past few months we have been less than pleased with our ability to meet 100% of CASREP requisitions within 24 hours. In response, we have worked hard to refine the integrated processes across divisions which insure your part is on the way, on time, every time. So, contrary to the usual customer/supplier spiels, I do not want you to bear with us, ***I ask that you hold us accountable.*** If you have a CASREP with a properly submitted priority requisition and we fail to meet your expectations, please contact me directly by phone or email (410 762-6010, or jwalker@elcbalt.uscg.mil). I recently pledged the same level of support to the ATON community. If you have a priority requisition for ATON on backorder and cannot live with the estimated delivery date for operational necessity, we will move heaven and earth to get that part for you. The only reason you won't get it is that it is unavailable at any price.

Your shipmates here at the ELC really care about meeting the needs of the fleet. When we fail to do that, we want your constructive feedback to help us meet your expectations.

Semper Paratus and good hunting.

CAPT Joe Walker
Commanding Officer
USCG Engineering Logistics Center

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**United States
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ELCLOG is prepared by the ELC's
Platform Management Division.

Letter from the Editor

Over 2,700 copies of the ELCLOG are distributed to our customers each quarter. The addresses that we use are taken directly from the CG Standard Distribution List (SDL). In the event that the ELCLOG is being mailed to an incorrect address or there has been a change of address at your unit, please complete form CG 4183 (Change of Mailing, Freight & Billing Address). Ensure that the **original** form is sent via chain of Command to the following address:

Commanding Officer
USCG, Engineering Logistics Center
2401 Hawkins Point Rd Mail Stop 26
Attn: Anissa Faulkner
Baltimore, MD 21226-5000

Send a **copy** of the form to:
Commandant (G-SII), USCG,
2100 Second Street, S.W. Rm 6106
Washington, DC 20593-0001

Any questions regarding address changes or corrections, contact Ms. Anissa Faulkner at 410 762-6588. Direct questions or comments related to the ELCLOG to the editor, Ms. Tina White at 410 762-6419.

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What's the Flap About Flaps?

By Chris Barry

Some time this summer, a 110 Island class WPB will get a two foot by eight foot flap on its transom, depressing flow from the cutter's hull down by about seven and a half degrees. Model tests recently overseen by the Boat Engineering Branch indicate that this simple device will produce fuel savings of as much as four percent, and as much as eight tenths of a knot increase in top speed. Since the flap is simple, cheap and can be readily installed at a routine availability, it will pay back its installation costs in as little as a year. Ultimately this will not only save money in fuel but will also reduce the environmental impacts of Coast Guard operations.

Flaps are common in planing boats. The 41 UT has a full width flap and the 47 MLB has a carefully optimized wedge, (essentially a flap built into the hull). Planing boat flaps work by providing extra lift at the stern, thereby optimizing trim for maximum efficiency. The 110 already has a wedge as well to provide lift at top speed. However, the flap put on the 110 is a new concept that provides resistance reductions at lower speeds. This type of flap was developed at the Naval Surface Warfare Center, Carderock Division (NSWCCD) for destroyers and frigates over the last few years and is being installed on a number of Navy ships.

The new flaps work through a combination of effects, some of which are not entirely understood. Much of what they do involves changing the pressure field at the stern. The sharp change in flow direction from the flap increases the pressure under the stern, which reduces the net resistance. The pressure change also reduces the energy lost in the wave system aft. This works by generating a wave out of phase with the regular stern wave that cancels some of it. This is evident by watching the wake—with the flap the "rooster tail" at the stern is much smoother and less disturbed. This change also increases the pressure at the propeller, which increases its efficiency and reduces cavitation and noise.

The Boat Engineering Branch began this project after attending a paper given by NSWCCD personnel at a conference in late 1996.

The paper showed substantial improvements with a flap on the Navy's 170' patrol boat PC13, which has a hull very similar to the 110. Based on this work, the Boat Engineering Branch met with the authors and set up a model test series using Survey and Design POP funding. Unlike the flaps previously installed on other ships, the tests showed that the optimum flap for a 110 was less than half the transom breadth.

As a side benefit, during the tests, we found that spray from the bow created a nuisance, so we added a small spray rail to the model. This spray rail substantially reduces deck wetness without increasing high-speed resistance. These rails will be added at the same time as the flap.

In a related task, Navy propeller specialists used the model test data and their advanced software (mainly used for designing advanced submarine propellers) to develop an improved propeller. The new prop should reduce cavitation and engine loading as well improving efficiency, so it will reduce both engine and prop maintenance and further reduce noise. The new propeller design also will be owned by ELC, so the ELC will be able to competitively source replacements. Test props to the new design will probably be acquired during FY2000.

If all goes well with the prototype installation, the ELC will stock a flap retrofit kit and in a few years all 110s will be fitted with a new flap and have reduced fuel use, maintenance and noise. ⚓



Contacting the Engineering Logistics Center

Telephone: 410 762-6000

Requisition Management

for emergency requisitions, questions about pending requisitions, ROD's QDRs, etc.

Telephone: 410 762-6800

Fax: 410 762-6213

Platform Management

for numbers listed in the platform management pages

Websites:

Internet:

www.uscg.mil/hq/elcalt

Intranet:

cgweb.elcalt.uscg.mil

Record Message Traffic:

The ELC plain language address is:
COGARD ENGLOGEN BALTIMORE MD

Note that this address supersedes the previous PLADs for Supply Centers Curtis Bay and Baltimore.

What Is *Deepwater*?

By LTJG Angela Cooper

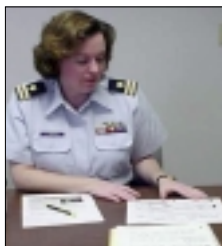
*"We must be aggressive and bold...
the Deepwater project... it is our future,"*
Admiral Loy, Commandant

The Coast Guard's Deepwater Project is on the "to-do" lists of many people, both military and civilian and various Coast Guard units. In some cases, the project has created new jobs, like the recently established billet in ELC's Platform Management Division filled by LT Helen Toves.

The Deepwater Project breaks with traditional acquisition paradigms and implements an innovative and unique Mission-Based Performance Acquisition approach. This new approach is a comprehensive approach to designing and obtaining our next fleet of ships, aircraft and communications systems.

The goal of Deepwater is to create "maximum operational effectiveness for the lowest cost," said Ms. Toves, who reported aboard the ELC last summer. Currently, three industry teams are competing to build the new "system", which focuses on our 14 mandated missions and our needs to complete those missions. The Coast Guard is challenging industry to present concepts of integrated systems (e.g. cutters, aircraft, sensors, communications equipment and logistics) where "all assets compliment each other," Ms. Toves said.

Additionally, since recruiting and retaining Coast Guard members is so important to the overall success of this service, industry is also challenged to improve shipboard life and make it more attractive. The Coast Guard assigned military and civilian personnel to matrix teams to evaluate the conceptual ideas and designs presented by industry during Phase 1, Conceptual Design. Ms. Toves is a member of the Integrated Logistics Support Matrix Product Team. Other teams include C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance), Surface, Aviation, Resources, Operations Research/ Modeling and Simulation, Integrated and Overarching. LT Toves' team



LT Helen Toves

reviews ideas from a supportability aspect. They review safety issues and manage the schedule of deliverables. She also has the opportunity to dialogue with Industry on life cycle and other logistics issues. In Jan 2000, the Deepwater project entered Phase 1 Extended, Functional Design, which is expected to end in Apr 2001. The next step is Phase 2, Proposal Preparation Review, which is expected to last until Jan 2002. At the end of the Phase 2, the contract will be awarded and the work will begin. ⚓

Learn more about the Deepwater Project, at <http://www.uscg.mil/hq/g-a/deepwater>



ShipAlt/BoatAlt Online

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Every alteration request that comes into the ELC is assigned to a DARTS casefile specific to a boat or cutter class. The casefile contains all the pertinent information about a given project including the date the request was received, the originator, the estimated date of approval, current location, and the current status. The electronic format of the casefiles is very useful to the class's Type Support Manager because it gives them the ability to search their 40+ casefiles in a matter of seconds. With the implementation of DARTS we are seeing more ShipAlts that cross the traditional lines between patrol boats, HEC/MEC's, icebreakers, and Buoy Tenders. This is because the information about one platform's current projects are available to all the different Type Support Managers in an easy to access format.

The major benefit of DARTS is that information is now available on the ELC's intranet site at <http://cgweb.elcbalt.uscg.mil/products.htm> and anyone with access can view the projects that are in the works for a given boat or cutter class. Now when you submit a ShipAlt/BoatAlt request you can track it from start to finish or just get an overall view of what ShipAlts/BoatAlts will be published in the near future. The

A Sentinel For Our Time

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presence of water vapor suspended in the atmosphere. The denser the fog, the more light will be scattered back to the receiver. The quantity of back-scattered light received by the sensor is averaged and correlated to a calibrated value that represents visibility. While problematic since its deployment, the VM100 is currently undergoing significant design evaluation by the OEM to provide solutions to a number of suspected design deficiencies that will expectantly lead to an increase in this asset's Mean Time Between Failure (MTBF).

If it isn't already intuitive to most, the state of meteorological science and technology has seen much technological progress of late. Less than 200 years ago, the weather data collection technology of the past consisted of individuals making observations using primitive, non-standard instruments. The current technol-

ogy, and what lies ahead in the future, will elevate atmospheric sciences to a new level, one that routinely consists of sophisticated remote weather sensing, satellite-based data collection and transmission, and computer modeling. When made available on the Web, the results of this technology could reach more people, more quickly, on a daily basis than any other contemporary science. With the unpredictable nature of coastal atmospheric dynamics, and the traditional reliance by mariners on Coast Guard Short Range Aids to Navigation (SRAN) resources, the Coast Guard VM100 fog detector will play a revolutionary role in the way real time maritime weather data is collected and made available to users. On the front line of this revolution, highly trained technicians at the ELC's Electronic Systems Laboratory are positioned to provide expert testing, repair, calibration and quality assurance of every sensor prior to its issue to the fleet customer. ⚓

Benefiting From Advancements In Automation Technology



By Roger Pruzinsky

Many 225 WLB sailors have shared tails of woe and distrust concerning their buoy crane. Specifically, the problem they share is with the control and monitoring system delivered with the crane. Problems range from poorly designed components such as joysticks, cables, sensors and enclosures to the overall system design. Any failure problem with a sensor can cause the entire system to shut down. Or even worse then that, crane moves without any user input.

The Electrical Systems Branch was tasked to look at the system design and develop a safe and reliable control system, *FAST!* We quickly formed an Integrated Product Team (IPT) to develop a plan of action. This IPT was comprised of Electrical Systems Engineers, Mechanical Engineers, and the Aton Support Desk from within ELC; Systems Management from G-SEN; and WLB acquisition engineers/managers from G-AWL. Since quickly implementing their design was a top priority we turned to the Military Sealift Command (MSC). MSC utilizes a contract with Beach Panel and Controls to upgrade control systems, including Crane, Propulsion, and Switch Board/Gear Controls onboard MSC Vessels.

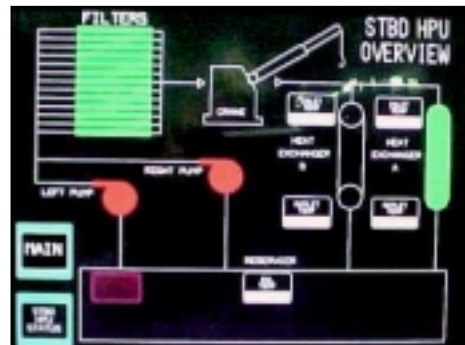
Beach Panel and Control engineers were an integral part of the IPT. Working together, we set out to perform an engineering analysis of the crane control system. Our analysis involved reviewing CASREPS, conducting ship checks, and interviewing crane operators and technicians.



The result of our analysis confirmed the systems inadequacies, and even revealed additional inadequacies. The net result of our analysis expanded our original task to include correcting these additional problems.

By working closely with the contractor during every phase of the system analysis, design, testing and installation, the IPT was able to develop and field a safe and reliable system in only seven months from the start of the project.

At the heart of the new system lies a powerful MODICON Quantum, Programmable Logic Controller (PLC), which is in constant network communication with the new computer driven HPU controller stations and each crane cab station. Additional enhancements include new intuitive touch screen interfaces, available



at all control and a new cable track system replacing the cable tension reels. Still, even more features include new industrial sized joysticks, the addition of a ladder up sensor, and new boom angle, extension, and rotation sensors. Three additional key features providing a high degree of functionality and control, are:

Sensor Bypass Controls. Through the use of touch screen interface an operator can temporarily bypass a failed sensor anywhere in the network. This feature enables the operator to continue to use the crane allowing the cutter to remove suspended loads and safely stow the crane.

Emergency Manual Controls. These controls are in the upper crane cab, and mounted above the operator's chair in a separate box. They provide electric toggle switch controls

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site will also help you see whether or not the concerns specific to your cutter or boat have been formally addressed with a ShipAlt/BoatAlt request.

DARTS will continue to grow in the future and will add some functionality. A significant improvement taking place right now is the incorporation of Engineering Change proposals (ECP's) and Engineering Change Request's (ECR's) for new construction cutters into the database. This will allow these projects to be tracked while they are developed into ShipAlts and are incorporated into the post-production fleet. Other changes will better support the Alteration Development Teams within the Engineering Logistics Center. The teams will be able to individually track the various aspects of ShipAlt development which take place concurrently and are managed by the various team members. Another goal for the coming months will be to greatly increase the flexibility of the Intranet interface, allowing users on the Web much of the functionality which is currently available at the ELC.

DARTS has proven to be a useful tool so far and will continue to assist ELC users and customers in the coming months. Feel free to visit DARTS on the ELC website and take a look at the issues affecting your boat or cutter class. ↓

SPRING 2000

ELCLOG 5

Customer Focus Is The Key To Success!

A Typical Day In The HEC/MEC Branch



Mr. Alan Haddaway and CWO Bryan O'Sullivan of the HEC/MEC Branch

By Alan Haddaway

The High and Medium Endurance Cutter (HEC/MEC) Branch is working hard each day to meet the needs of our customers. Responsible for three (3) platforms and forty five (45) cutters including the STORIS, ACUSHNET, ALEX HALEY and EAGLE, the HEC/MEC Branch is staffed with eleven (11) dedicated military and civilian personnel committed to helping you meet your mission. The following describes a typical day in the HEC/MEC Branch.

Chief, HEC/MEC Platform Manager

- Requests Project status updates and provides guidance and oversight.

- Leads Parts Quality Management Board meeting to address fill rates for customer requisitions.

Logistics Managers

- Reviews CASREP data for HEC/MEC cutters, verify parts availability via ELC, CG Units and commercial sources to help ensure CASREP requisitions are filled.

- Contacts 378's, NESU's, ESU's and MLC's to solicit supportability problems in preparation of an upcoming Cutters Support Review. Over 80 supportability issues received.

- Coordinates high priority requisition to the Arabian Gulf for CGC MIDGETT.

- Drafts and submits Commodity Management Plan to Equipment Team to replace old ALCO Cylinder Heads. Promotes standardization throughout fleet.

- Initiates provisioning action to obtain new NSN for 270 CPP Installation Kit.

- Receives call from CGC RUSH requesting assistance in locating a part.

Type Support Managers

- Facilitates a progress meeting with Equipment Managers, MLCA and CG YARD for the Tank Level Indicating (TLI) system being prototyped on CGC NORTHLAND. Type Support Managers are responsible for managing the Prototype and SHIPALT process.

- Reviews and provides platform input to the Equipment Support Plan (ESP) for the 270 WMEC Fire & Smoke Detection System.

- Reviews drawing packages for 378 WHEC Fuel Control System Prototype.

- Attends CGC DURABLE's emergency Dry dock arrival conference. Coordinates cutters Material Assessment walk through.

Configuration Data Managers

- Processes six (6) Allowance Change Requests (ACRs) and mails out updated Allowance Parts Lists (APLs) to appropriate cutters.

- Contacts cutter to verify data on a Configuration Change Request Form.

- Performs supportability review for 378 Ships Structural Machinery Evaluation Board (SSMEB).

Deepwater Legacy Project Officer

- Brokers work requests from G-SEN to ELC's Equipment Teams.

- Attends high level Deepwater Legacy meeting at Headquarters.

These are all typical jobs performed in any given day in the HEC/MEC branch. Our Logistics and Type Support Managers are made up of Chiefs and Officers with an engineering background. Our Configuration Data Managers have a supply or engineering background. The Deep-

water Project Officer and Chief Platform Manager have HEC/MEC Engineering Officer and MLC Type Desk experience. If you have questions concerning a Prototype or SHIPALT; Configuration or Supportability issues; Quality condition, or timeliness of parts received, please contact your HEC/MEC Platform at anytime. We are here to serve you and should be your first point of entry into the ELC for logistical and engineering issues. ↓

Mr. Haddaway provides civilian continuity in the HEC/MEC Branch as Logistics Coordinator

AIM: The Importance Of An Accurate EIR Shore Elex

By Ron English

Your new MICA is on its way! MICA stands for Management Information for Configuration and Allowances and is the replacement logistics document for ERPAL. MICA basically contains the same information as the ERPAL, in a slightly different format. The ELC produces the MICA based on units' Electronics Inventory Records (EIR) in the Accountable Item Management (AIM) database. If your EIR reflects inaccurate equipment listings, such as old equipment that has been de-installed, or it doesn't include equipment currently installed, then your MICA will reflect these inaccuracies. What does this really mean? On board repair parts that you need to support your equipment will not be listed as allowances in your MICA. Initial issue repair parts to support this equipment will not be ordered for your unit. Your unit's CMPlus or SCAMP files will reflect the inaccurate inventory. You will be missing support items that you need and carrying de-installed equipment inventory items that you don't need. An accurate AIM means an accurate MICA, accu-

HEC/MEC Branch

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Logistics Coordinator, HEC/MEC
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Logistics Manager, HEC/MEC
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270 WMEC—LTJG John Berry, 410 762-6111
210 WMEC—EMCS Cliff Tice, 410 762-6103

Configuration Data Managers
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270 WMEC—MK1 David Coburn, 410 762-6074
210 WMEC—DCC William Adams, 410 762-6104
210 WMEC—Ms. Sherry Pietila, 410 762-6131

Deepwater Legacy Team
LT Helen Toves, 410 762-6107

rate inventory files and an accurate supply locker.

To help insure that your unit's AIM is accurate prior to the ELC's processing of your MICA, you will receive an AIM validation request letter from us. Your unit should receive this letter about 3 months prior to your MICA's scheduled print date.

The point of contact for MICA and electronics equipment logistics support information is Ron English at 410 762-6158 or email at renglish@elcbalt.uscg.mil. ↴

Improved ELEX Logistics? Cutting Out The Middleman

By Michael G. Triano

The ELC has received approval from G-SCE, for the transfer of AFC-42 MICA Deficiency funding to the ELC as part of a new initiative by the ELC to develop, submit, and fund ELEX MICA deficiency MILSTRIP requisitions as part of the unit's MICA package. In support of ongoing efforts to improve ELC services fleet-wide, the ELC has partnered with G-SEN, G-SCE, and MLC(t) and developed a plan that will enable the Electronics Configuration Data Managers (CDMs) at the ELC to directly process any ELEX MICA related requisitions. This is a change from the current business practice where the ELC provides a skeletonized STAR requisition file to the MLC's, who then prepare, submit, and fund the requisitions.

Once the funds are transferred to ELC, here's how it is going to work. When the ELC loads the MICA Master File with your AIM/EIR data, and a MICA is produced, a list of deficient items based on the MICA Monetary List will be generated. Since the AIM/EIR file is the source of the ELEX MICA, the importance of maintaining an accurate and up to date AIM /EIR cannot be overstated. This list will be automatically formatted into MILSTRIP requisitions. Before submitting the requisitions, we will validate the On-Board Repair Parts (OBRP)

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110 WPB Clusters

By LT Mike Holz

Coast Guard Activities San Diego (ASD) recently received the addition of CGC LONG ISLAND to their port. This was in addition to the two other 110 cutters and marked the first time where an "A", "B" and "C" class 110 cutter were all homeported in the same location. At the request of ASD, the ELC initiated a CONSOLIDATED SHORE SUPPORT (CSS) allowance program to support all three cutters. This new requirement facilitates the stowage and management of the lion share of cutter On Board Repair Parts (OBRP) allowances at ASD where previously each vessel was required to maintain their own individual inventories. A portion of the cutter's OBRP inventory and Operating Space Items (OSIs) were kept on-board to correct certain critical casualties and accomplish routine PMS while deployed.

The allowance work completed for ASD helped lay the groundwork for the first "C" Class only cluster scheduled for St Petersburg, FL. Between June 2000 and July 2001 the cutters KNIGHT ISLAND, KODIAK ISLAND, PEA ISLAND and KEY BISCAYNE will be re-homeported there. With allowance information input from the ELC, G-SLS is coordinating the establishment of a CSS program at St Petersburg to include maintenance personnel, a storage facility and inventory management staff similar to the other CSS locations in Miami, San Juan PR, Key West and San Diego.

RECENTLY COMPLETED SHIPALTS

Number	Title	Date Issued
110-A-070	EEBDs	13 SEP 99
110-C-071	Sewage Isolation Valves	30 NOV 99
110-A-072	Refrigerant Detectors	30 OCT 99

110 WPB Paxman Engine Perception Heads

By MKC James Taylor

National Stock Number (NSN) 2910-99-733-1100 for the Perception Head is obsolete and no longer supported. Replacements to the Paxman Engine Perception Head and corresponding circuit card are now available. (1). NSN 2815-01-463-7232, part number (p/n) M343, is for the Speed Sensor Shaft. Presently the ELC has eight on hand. (2). NSN 5998-99-

474-4904, p/n P6030/L603002, is for a Modified Circuit Card. There are four on hand. This item replaces the "old" Speed Switch Circuit Card, NSN 5998-99-733-1098, which has been modified and is no longer stocked. (3). NSN 5998-99-729-2045, p/n P603002/00/09S1, is for a newly manufactured Circuit Card at a significant cost over the modified card. There are five on hand. For future requisitions units should request both items (1) and (2), or items (1) and (3). The "old" Speed Switch Circuit Card, NSN 5998-99-733-1098, remains a turn in item and shall be returned to the ELC for modification, repair and restocking under the NSN 5998-99-474-4904. Since the "old" Speed Switch Circuit Cards are obsolete with the new configuration, units are encouraged to turn in all excess "old" Speed Switch cards to the ELC when the new shaft and card assembly are installed so that they too can be modified and restocked for future issue. This information shall be included in all future Management Information for Configuration and Allowances (MICA) manual prints, as well as an upcoming CALMS/MICA amendment. Point of contact is MKC Taylor at 410 762-6143. ↴

87 Patrol Boat MICA Manual

By CW02 Clifton Price

The Management Information for Configuration and Allowance (MICA) document for the 87 WPB is 95% complete. At their time of delivery, the ELC provided the most up to date MICA available to each cutter. The MICA for hulls 1-4 reflected only 60% of the installed equipment. Hull 5-7 received a MICA that reflected 70% on the installed equipment, and hulls 8-14 received a book that reflected 95% of the installed equipment. These varying percentages are due to the delay involved with the receipt and review of Provisioning Technical Documents (PTD) from the contractor. The information in MICA is also used to populate the CMPlus database used for tracking unit inventory.

Currently the ELC is working with the headquarters office of G-SLS to develop a refresh capability so that units can update their CMPlus information when MICA changes are initiated. The ELC is tentatively scheduled to have that capability in the 3rd quarter 2000. At that time we will be able to provide an updated

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Going, Going... But Not Yet Gone

New Life For The Mk 92 Fire Control System?

By LT A.B. Jones

Have you heard the latest rumor about the demise of the Mk 92 Fire Control System? Just as with all its predecessors, the rumor has an element of truth to it, but the rest of the facts have been twisted to meet the end result. The fact is that the Mk 92 FCS is not going anywhere anytime soon. The Mk 92 FCS still has a Program Office, still has an In-Service Engineering Agent (ISEA), and still has a corp of dedicated folks working to support it. The Engineering Working Group (EWG) is still meeting regularly, discussing many logistics support issues, including parts obsolescence, which is what prompted the latest round of rumors.

At the last Working Group meeting held at the Naval Surface Warfare Center (NSWC) Port Hueneme, the supply support section reported they have been unable to find a viable source for the Klystron or Backward-Wave Oscillator (BWO) tubes used in the Radar Cabinet. These tubes are 1970s vintage technology, and are vital to the operation of the fire control radar. The current manufacturers are either out of business or no longer interested in manufacturing the items. Based on on-hand and due-in stock levels, the supply of BWO tubes is expected to last four years and the klystron tubes three years, at which time, the fire control system would be rendered inoperable. The Mk 92 FCS is installed on the 378 WHECs and 270 WMECs and is the only means of firing the Mk 75 Gun Weapon System.

Three different technical solutions are under consideration by the Navy. They range from making the Mod 1 radar match the Mod 6 version installed on the leading edge Navy FFGs, and are commonly referred to as CORT. This is the most expensive option, ranging upwards of \$20M to convert all effected cutters. The next option is a solid-state local oscillator (TSSLO) similar to that installed in the Mod 2 Version fire control system on mid-level Navy FFGs. This option is expected to cost upwards of \$15M. The third and cheapest alternative is to install commercial off-the-shelf hardware in a complete redesign of the radar cabinet, which is expected to approach \$8M and take two years.

This issue has also been discussed at a meeting of the Permanent Joint Working Group on Cutter Combat Systems (adjunct to

the Navy-Coast Guard (NAVGARD) Board). At that meeting, the design options were presented along with the associated system operational capability trade-offs. OPNAV recognizes the need to fund a solution, and is working to identify the necessary funding. In the meantime, the Coast Guard is working to determine which alternative design(s) meet the cutters' mission requirements. Installation of the prototype radar cabinet should occur in 2001 with full production underway in 2002.

In the mean-time, the proliferation of Mk 92 Systems on foreign Navy frigates through the U.S. Navy's Foreign Military Sales Program, and the recently extended life of the U.S. Navy's own Frigate program make the long-term prospects of the Mk 92 look much better now than they have in a long while. ⚓

87 Patrol Boat MICA Manual

Continued from page 7

MICA to hulls 1-7 that includes the most current support and allowance information for their installed equipment.

A 100% complete MICA for the 87 WPB can be expected for all cutters within 1 year past the last cutter delivery, tentatively scheduled for August 02.

MICA is the most accurate data to use for onboard spares and for now will take precedence over CMPLUS allowance data. Our goal is for MICA and CMPLUS to have identical data. ELC is in the process of reviewing the quality of all APL's for CMPLUS and MICA usage. The ELC point of contact for the 87 CPB is CWO Clifton D. Price 410 762-6144, for CMPLUS LCDR Mitchell Ekstrom 202 267-6621. ⚓

87 WPB Related Websites

■ www.uscg.mil/hq/g-a/87cpb/default.htm is the G-AWP home page for the 87 Patrol Boat Project.

■ www.mtufridrichshafen.com/en/frameset/f wo.htm has additional information regarding the MTU main engines.

■ www.gfs-inc.com has additional information regarding the MTU engine DIADEM monitoring software. ⚓

ELEX Logistics?

Continued from page 7

requirements using your TAV data. The MILSTRIP requisitions will then be loaded onto the Federal Supply System, much like the COSAL Initial Outfitting Requisitions for Navy Type Navy Owned Electronics. Your unit will be provided with a list of the requisitions that you can use for status and tracking purposes, as an addition to the MICA package. Parts will arrive at your unit, and the bill will come to ELC.

For more information on MICA ELEX requisition processing, contact Mike Triano at the ELC, 410 762-6161 or via email at mtriano@elcbalt.uscg.mil. ⚓

Lighting Up Your World

Mk 92 FCS Replacement Lamps

By LT A.B. Jones

Here's a quick reference for Mk 92 FCS replacement lamps.

■ Use P/N 387, MS25237-387, or MS18209-387 only in the Servo Control Console (UD 441) and Pan J of the Weapons Control Console (UD 461).

■ Use P/N 327 or MS25237-327 only in the Radar Cabinet (UD 403) and in Pans H, J, and U of the Weapons Control Console (UD 461).

■ Use P/N 2986-501 or P/N OL-6244 for WCC switch P/N 3149719. An economy pack of these lamps is available under 6240-01-032-0712. The unit of issue is "PG", has 10 lamps to a pack. ⚓

Visit Our Websites At

Internet:

www.uscg.mil/hq/elcbalt

Intranet:

cgweb.elcbalt.uscg.mil

ELC
Home Page

CLARIFICATION

"CASREP Message Drafting" from ELCLOG Winter 2000 Issue. Read COMDTINST M3501.3E pg. 2; paragraph 5 for references on formatting CASREP messages. Don't rule out the CM+ CASREP Functionality Design manual as another resource. Contact MKC Paul Miller, Training Center Yorktown, 757 898-2105 for the latest in CASREPs. ⚓

Automation Technology

Continued from page 5

that work independently of the new control systems computers and sensors. The Emergency Manual Controls are to be used as a redundant level of control in the event of a catastrophic computer failure.

System Information. By employing computer network technology an operator sitting at a control station can, at the touch of the screen, switch to different control pages. These pages provide detailed information on the status of the crane or any of its monitored systems. This is a great improvement over the simple indicator lights that were previously installed.

The prototype installation has been completed on the CGC KUKUI and is currently undergoing a rigorous test and evaluation period. Since this project is to correct a potentially serious safety concern, we will accelerate the normal prototype evaluation period. As soon as all the testing is complete we will move this fix out to the rest of the WLB fleet.

This project represents a great example of the benefits of teaming with industry. We would like to thank crew of the CGC KUKUI for their outstanding cooperation during the prototype installation. ⚓

SPRING 2000

One Size Fits All

210 A Class Standardized Hubs And Shafts

By Charles Brickell

Background

The 210 A class vessels have had problems during hub and/or tailshaft changeouts since their commissioning due to non-standard tailshaft flanges or hub bodies. In the early 80s the Yard cut the shafts into 2 pieces to make repairs easier, (the original propulsion shafts were 1 piece). Any replacement tailshaft or hub requires excessive hand fitting of the dowels between the hubs and tailshafts prior to installation. This process is time consuming and in many cases delays the dry docking schedule. MLCLANT, MLCAPAC, ELC and the Yard decided to standardize the on hand inventory at ELC and continue standardizing assets as they come through the repair cycle.

Action

The ELC established a work order with the Yard to design a "standardization fixture" to rework the on hand tailshafts and hubs and to start the process. We inducted 4ea tailshafts, (2010-01-314-1767) 4ea lineshafts, (2010-01-313-8424) 2ea LH hub, (2010-01-143-5217) 2ea RH hub, (2010-01-141-3494) in our work order. The ELC currently has 2 shipsets of hubs and shafts ready for issue. The tailshaft and lineshaft were match marked due to internal bores and are no longer stocked under individual NSNs.

Future

All future requests for shafts will be as assemblies under the new NSN: 2010-01459-5795, lineshaft and tailshaft matched and standardized. All future requests for hubs will be filled with standardized hubs. If the vessel requisitioning these items, (hubs or shafts) has not been standardized they will be issued a 2pc shaft set and a hub which has been standardized. After the vessel has standardized



210 A Class Hub



210 A Class Shaft

shafts and hubs installed they will be able to request a shaft set or hub individually. ELC will be insuring the repairs of all "F" assets are configured to these new requirements during normal repair work orders at the Yard. ⚓

2010-01459-5795: (new NSN)
1ea Tailshaft 1ea Lineshaft

2010-01-143-5217: (same NSN)
LH hub

2010-01141-3494: (same NSN)
RH hub

Note: * Couplings (shaft and red gear) have not changed and are available if required.

** Oil tubes (inner and outer) are not included.

—The old NSNs for the tailshafts and lineshafts will be deleted and is no longer available.

Standardizing Shipboard CCTV Systems

By Roger Pruzinsky

Last year ELC completed the development of a Closed Circuit Television (CCTV) System ShipAlt for the 225 WLB "A" class cutters. This task involved evaluating 7 different CCTV Systems from 5 different manufactures and conducting ship checks of several cutter classes (270's, 225, 210's, and 175's) to evaluate the capabilities of the CCTV systems currently installed. What we discovered was that there is quite a large variety of CCTV systems onboard our cutters.

The CCTV System selected is manufactured by PELCO Inc., www.pelco.com, and is available on the GSA schedule (Contract No. GS-03F-4079B). The system is built around the PELCO CM8500 series Matrix Switcher. The CM8500 is a microprocessor-based video switcher that can accept up to 32 camera inputs and is compatible with most video cameras. Individual input/output cards allow expansion to 16 monitor outputs, but can be ordered, pre-configured, depending on user requirements.

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ELCLOG 9

Steering Made Easier 378 Rudder Assembly

By Charles Brickell

Background

The ELC, when previously SCCB, Platform Management (PM) Division and Technical Branch in conjunction with MLCs, NESUs, and Cutter inputs was able to circumvent a catastrophic failure of the rudder systems aboard the 378 WHEC class. A failure of this degree would have inevitably equated to the loss of operational availability. While monitoring CASREP traffic, PM had noted repeated rudder system failures throughout the Class in a short period of time. This prompted an immediate investigation into what had been done to the rudder systems during FRAM. The research revealed that nothing had been done. This finding identified the immediate need to establish supply support for the ailing rudder systems. With the ELC working in conjunction with MLCs, NESUs, and Cutters the required supply support was established and efforts were underway to procure the required parts for ELC shelf stock.

Soon after the initial finding a 378 WHEC Cutter Support Review reconfirmed the need for supply support using Fleet documentation on deterioration of their rudders & stocks over a number of years. These assets have been repaired many times and when reworked they required refitting, which requires extra dry dock days to accomplish. The Fleet was also concerned that the redowelling on the tiller arms over the years was compromising the assets. The ELC only had 1 rudder blade, (2040-01-394-7957) and 1 rudder stock, (2040-01-396-4048) on hand to support the Fleet. Tiller arms were never stocked. After discussions between the ELC, C.G. Yard, MLCs, and NESUs the following actions were initiated.

Action

The ELC contracted the C.G. Yard to manufacture 4 rudder assemblies, (NSN:2040-01-459-4101) for ELC inventory. These assemblies are complete from the top tiller arm nut to the blade, including new tiller arms! The rudderpost lifting eye and wrenches for the tiller arm nut and the rudder blade nut are also included. The blueprint requirement of 70% or greater has been attained and documented with an ELC Quality Assurance Representative witnessing the process. This will eliminate the time consuming

hand fitting previously required during a rudder blade or rudder stock replacement. The assembly will be shipped in 3 boxes due to the size of the rudder and stock and will contain the following items:

Note: Some Assembly Required

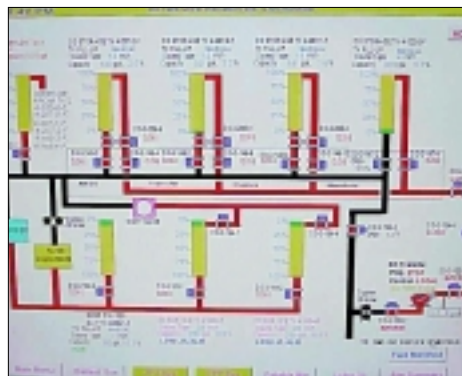
- Tiller arm eye bolt (1ea)
- Tiller arm nut and wrench (1ea)
- Spacer rings (2ea)
- Retaining bolt (1ea)
- Taper pins (4ea fitted)
- Tiller arm keys (2ea) (marked for location)
- Tiller arm spacer plate (1ea)
- Tiller arm (1ea)
- Rudder stock (1ea)
- Rudder blade (1ea)
- Rudder blade nut and wrench (1ea)

All future requests for 378 rudders will be accomplished with NSN: 2040-01-459-4101 only. The old NSNs have been canceled and are no longer available. ↓

Success Points To Teamwork

Northland Gets New Tank Level Indication And Remote Fuel Valve Control System

By Andrew Mierzwa and Wayne Cavey



The new system uses Programmable Logic Controller (CPC) technology.

For many years, fuel transfer onboard the 270 WMEC cutters has been an extremely time consuming operation. The fuel valves must be manually operated and the tanks must be sounded manually. There is an installed tank level indication (TLI) system but it is so inaccurate that most crews have lost faith in the system.

The ELC's Electrical Systems Branch took on the challenge of developing a new Tank Level Indicating (TLI) control system, which would:

- Replace the existing unsupportable and inaccurate system
- Reduce manpower required during fuel transfer and refueling evolutions
- Provide a new system utilizing Commercial Off The Shelf (COTS) hardware.



The existing fuel valves were motorized and can now be controlled from any TLI workstation. Five data collection boxes "DROPS" were installed in the ECC, Engine Room, Aux #2, JP-5 Pump Room, and the Steering Gear Room. These "DROPS" reduced the length of cable runs and resulted in some weight reduction.

A Team comprised of personnel from ELC Electrical Systems Branch, ELC WHEC/WMEC Type Support Manager, CG YARD and MLC LANT was established in the early stages of this project. Recognizing and employing the talents of each individual resulted in a team capable of completing the entire project including design, installation and logistics support.

As a result of the new TLI system, CGC NORTHLAND can accomplish refueling operations in half the time and with fewer personnel on station. Since the installation, CGC NORTHLAND has re-fueled several times including an astern re-fueling of a WPB 110. Each evolution was accomplished with 3 fewer people than normal. In addition to the manpower savings during fuel transfers, the improved accuracy of this system has allowed crews to discontinue manual soundings of tanks on a routine basis, saving over 5 man hours a day. ↓



378 Rudder Blade



378 Rudder Stock

Standardizing Shipboard CCTV

Continued from page 9

The system also supports up to 8 CM8500D keyboards, which are used to program the matrix switcher via easy to use on-screen programming windows. Additional standard features such as presets, sequencing, pattern scanning, and zone definitions are also user programmable through a keyboard. The system can also be configured to accept up to 32 relay inputs or ASCII inputs. This last feature will allow the system to eventually connect the CCTV system to the fire and smoke or intrusion alarm systems.

After completing the technical package for the 225 WLB ShipAlt, we approached the Cutter Platform Managers with a proposal to standardize the CCTV for the rest of the CG cutters. Our efforts to date have been very promising. The CG YARD is currently developing a ShipAlt for the 175 WLM's using the same equipment selected for the 225 WLB's. The 378 WHEC Platform Manager is also including the new "Standardized" CCTV system in the planned Fire and Smoke Detection System upgrade. Additionally, MLCLANT is reviewing this CCTV system for installation onboard the 270's. Among the larger cutter classes this leaves only the WAGB's, the 210's, and remaining WMEC's, which we plan to begin working on later this year.

Finally, all these capabilities result in a modern CCTV system that is simple to install, configure, and maintain. The feature we feel the cutters will enjoy the most, is the system's ability to independently provide video to each monitoring station without affecting other monitoring stations. (i.e. The ECC, Bridge, and Quarter Deck will each have independent control of the CCTV system via the keyboard(s) and monitor(s) located at their station.) ↴

Milstrip It! Getting The Parts You Need

By CPO Charles Dixon

Your Cutter, Small Boat or Loran station has a broken part. You have sent a CASREP message notifying everyone that needs to know. The ELC manages the item, now what? While the CASREP message you sent to the ELC looks like it has all the information we need to send you the part, the truth of the matter is that our hands are tied until we receive a MILSTRIP REQUISITION ordering the part from the ELC. We need specific information to process your CASREP requisition. The specific information we need to process your CASREP requisition is found in

COMDTINST 3501.3 and COMDTINST 4400.19A. When requisitioning parts for a CASREP from the ELC, make sure you include the following information:

- A.** Reference the CASREP DTG.
- B.** Include a proper narrative MILSTRIP line.
- C.** If you use a RDD of 777, make sure you include an accounting line.
- D.** If it's a small package, include your FEDEX account number for the premium shipping service you're requesting.
- E.** If you use a RDD of 999 and it is a large item and still want it next day, include your accounting line, address (no P.O. Boxes).
- F.** Also, include a point of contact with a phone number. This helps customer service if there is a problem with the requisition or the carrier if they are having trouble making the delivery.
- G.** See the example below of a proper CASREP requisition to the ELC. As a reminder, customer service will handle all CASREP and exception data requisitions. All lower priority requisitions should be submitted through automated means i.e., CMPLUS, STAR or formatted message to DAAS. ↴

ASK LOGGIE

Got a question about Logistics?

Ask Loggie. Hopefully, this column will inform, enlighten and amuse you, and if you're not careful, you just might learn something.

Dear Loggie,
We heard rumors about a new Allowance Book that replaces CALMS and ERPAL. What's the 411?

V/R Curious SK

Dear Curious,
The MICA (Management Information for Configuration and Allowances) is an ELC product that replaces the CALMS, ERPAL and BOSS. The MICA is tailored to a specific unit or unit class, and lists the system hierarchy of installed equipment, equipage, and spares authorized for the operation, repair, maintenance and upkeep of the installed equipment. We've taken the best parts from the CALMS, ERPAL, and BOSS manuals. MICA also contains NSN/Part Number cross reference data, NSN changes, Addition lists, Monetary lists, Deletion lists, and SCAMP files for designated users not yet on CM+. Should be a best seller. . . . Can't wait until they make a movie out of it. . . .

Hey Loggie,
I ordered a Circuit Card Assembly (CCA) from the SOS under NSN 5998-01-234-5678, and when I received the box, I noticed that the right side of the box was crushed. After opening the box, I noticed that the circuit card was cracked. What do I do now, Loggie?

Hurtin' in Honolulu

Dear Lulu,
Hang loose, bruddah. The Supply Policy and Procedures Manual COMDTINST. M4400.19A, Chapter 5-N addresses Supply Discrepancy Reports. This sounds like a job for a TDR (SF-361)

Transportation Discrepancy Report. Guidance provided in SPPM.

Loggie,
Thanks for the info. I filled out the TDR and returned the defective circuit card. I then re-ordered and received the WRONG circuit card. NOW WHAT?!?!?!?

Hot in Hono

Dear Hot,
Stay Calm! You need to bust out the ol' SPPM again, and fill out a ROD (SF-368) Report of Discrepancy.

LOGGIE,
Did the rod!!! got the card!!! CCA is a different mod!!! Good thing your ace provisioners gave me a spare. Let me guess, spm chapter 5, qdr (sf-368) quality deficiency report, right?
hopeless in hawaii

Hope,
Don't go Coastal on me. Sometimes bad things happen to good people. Yes, the QDR is right form to fill out. You have Loggie wisdom, now.

Dear Loggie,
I submitted several Allowance Change Requests to the ELC over 8 months ago, but have not received a reply. It seems that we are being ignored. What's going on?

Frustrated

Well, that's all for now, keep the questions and comments comin'.

Send your logistics questions to:

Commanding Officer
USCG Engineering Logistics Center Mail Stop 26
2401 Hawkins Point Road, Baltimore, MD 21226
Attn: M.G. Triano

Or call Mike Triano at 410 762-6161
or e-mail at mtriano@elcbalt.uscg.mil

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To: **Content Approving Officer, USCG Engineering Logistics Center**

From:

Come to See Us

From Washington and Points West or South
From HWY 95 or 295 North, Turn right on Baltimore Beltway I-695 heading east toward Key Bridge for 5.4 miles to Exit 1. At the end of the off ramp, bear right. You will immediately come to an intersection with a traffic light (Hawkins Point Road). Make right on Hawkins Point Road and continue for ½ mile to the first traffic light. Turn left into the Coast Guard Yard. The gate guard will provide a parking pass and parking directions.

From Baltimore and Points North or East
From HWY 95 South, turn left on Baltimore Beltway I-695 heading southwest for 16.7 miles, over the Francis Scott Key Bridge, to Exit 1. At the end of the off ramp, turn left. You will immediately come to an intersection with a traffic light (Hawkins Point Road). Turn right on Hawkins Point Road and continue for ½ mile to the first traffic light. Turn left into the Coast Guard Yard. The gate guard will provide a parking pass and parking directions.

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